

### Patent Claims

1. Process for the material recycling of LCDs, characterised in that the LCDs are at least partly employed as replacement for other raw materials.  
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2. Process according to Claim 1, characterised in that the LCDs are thermally treated at a temperature in the range from 900 to 1700°C.
- 10 3. Process according to Claim 2, characterised in that the LCDs are melted selectively at a temperature in the range from 900 to 1400°C.
4. Process according to Claim 1 or 2, characterised in that the LCDs are mixed with other metal-containing products and thermally treated at a temperature in the range from 1200 to 1400°C.  
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5. Process according to Claim 4, characterised in that the metal-containing products comprise at least some of the electronic components of the LCDs.  
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6. Process according to Claim 4 or 5, characterised in that the LCDs are employed in order to bind the non-noble metals present in the metal-containing products and to separate them from the noble metals.
- 25 7. Process according to at least one of Claims 4 to 6, characterised in that the LCDs replace at least some of the furnace sand usually employed in this process.
- 30 8. Process according to at least one of Claims 4 to 7, characterised in that the plastic films present in the LCDs are employed as reducing agent in order to reduce the metal-containing products.

- 5           9. Process according to at least one of Claims 4 to 8, characterised in that the plastic films present in the LCDs replace at least some of the carbon-containing products usually added as reducing agent in this process.
- 10          10. Process according to Claim 1 or 2, characterised in that the LCDs are thermally treated as raw material and/or added material in rotary-tube furnaces at a temperature in the range from 1100 to 1300°C.
11. Process according to Claim 10, characterised in that the LCDs as raw material and/or added material result in the formation of a protective film on the inner lining of the rotary-tube furnaces.
- 15          12. Process according to Claim 10 or 11, characterised in that the LCDs replace at least some of the silicate-containing compounds usually employed in this process.
- 20          13. Use of LCDs as raw material and/or added material in thermal treatment plants.
- 25          14. Use of LCDs according to Claim 13 as raw material and/or added material in thermal treatment plants for the formation of a protective film on the inner lining thereof.
15. Use of LCDs as energy supplier in thermal treatment plants.
16. Use of LCDs in metal recovery.
- 30          17. Use according to Claim 16, characterised in that the LCDs are employed as raw material and/or added material.

18. Use according to Claim 16 or 17, characterised in that the LCDs are employed as replacement for furnace sands and/or carbon-containing products.

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19. Use according to at least one of Claims 16 to 18, characterised in that the LCDs are employed as energy supplier.

20. Use of LCDs according to at least one of Claims 16 to 19, characterised in that the LCDs are employed in the recovery of noble metals from compositions comprising a mixture of noble and non-noble metals.

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21. Use of LCDs according to Claim 20, characterised in that the LCDs are employed in the recovery of noble metals from ores.

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22. Use of LCDs according to Claim 20, characterised in that the LCDs are employed in the recovery of noble metals from catalysts, electrical or electronic scrap and metal-containing sludges.

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